

Rejection Under 35 U.S.C. § 103.

The Examiner has rejected claims 17-22, 25, 26, 28, 30-32, 34 and 36-39 under 35 U.S.C. § 103(a) as being unpatentable over Jackson et al. (U.S. Patent No. 5,652,658). Applicant respectfully traverses the rejection.

The Examiner concedes that Jackson does not disclose "processing the two-dimensional image to identify three-dimensional features and processing the three-dimensional image at those features to determine the altitude of those features." The Examiner however mischaracterizes Jackson when the Examiner states that Jackson teaches processing the two-dimensional image to identify three-dimensional features and processing the three-dimensional feature image at those features to determine the altitude of those features citing column 6, lines 26-35 and lines 40-44. In contrast to the Examiner's description, Jackson teaches that once a three-dimensional feature is located using three-dimensional data, in the example a pin, an analysis of the two-dimensional data in that region may be used to qualitatively describe the nature of the three-dimensional data, i.e., the determination of a compound bend. See Column 6, lines 21-31. This description is completely devoid of any teaching that the two-dimensional data may be used to locate three-dimensional data thereby gaining processing efficiency by processing three-dimensional data only at the locations revealed by the two-dimensional data. Applicant submits based on this correct description of Jackson, that Jackson fails to teach or suggest the claimed invention. Therefore, Applicant respectfully requests that the rejection of claims 17-22, 25, 26, 28, 30-32, 34 and 36-39 be reconsidered and withdrawn.

Claims 23 and 24 depend on claim 17 and are similarly in condition of allowance.

Claims 27, 33 and 40 depend from claims 17, 30 and 39 respectfully and are similarly in condition for allowance.

Claims 29 and 35 depend from claims 28 and 34 which are similarly in condition for allowance.

Claim 41 depends from claim 40 which is similarly in condition for allowance.

For the previously stated reasons, Applicant requests that the objections and rejections be reconsidered and withdrawn. Applicant solicits a Notice of Allowance. If the

Examiner feels that the prosecution of the present application can be expedited by way of an Examiner's Amendment, the Examiner is invited to contact the Applicant's Attorney at the telephone number listed below.

Respectfully submitted,

YOUNG & BASILE, P.C.

A handwritten signature in black ink, appearing to read 'MS-2' with a stylized flourish at the end.

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the claims:

17. (Amended) A method for evaluating the quality of an IC package where the IC package includes a plurality of three dimensional features, the method comprising:
acquiring a two dimensional image characteristic of a portion of the IC package, the two dimensional image defined by a plurality of pixels having at least an address and a pixel intensity;

acquiring a three dimensional image characteristic of the portion of the IC package, the three dimensional image defined by a plurality of pixels having at least an address and an altitude;

processing the two dimensional image to identify a plurality of addresses which are characteristic of three dimensional features;

processing the three dimensional image only at those addresses which correspond to two dimensional addresses characteristic of three dimensional features, to determine the altitude of those three dimensional features, and;

rejecting the [quality] IC package if the altitude of the three dimensional features fall outside predetermined boundaries.

23. (Amended) A method as in claim 22 where the coplanarity value is determined by calculating planes of repose.

24. (Amended) A method as in claim 22 where the coplanarity value is determined by calculating a [the] best fit plane using least squares.

30. (Amended) A method for evaluating the quality of an IC package where the IC package includes a plurality of three dimensional features, the method comprising:

acquiring a two dimensional image characteristic of a portion of the IC package, the two dimensional image defined by a plurality of pixels having at least an address and a pixel intensity;

acquiring a three dimensional image characteristic of the portion of the IC package, the

three dimensional image defined by a plurality of pixels having at least an address and an altitude;

comparing the two dimensional image against a two dimensional template and rejecting the quality of the IC package if the comparison reveals that the two dimensional image does not include three dimensional features in an expected configuration;

processing the two dimensional image to identify a plurality of addresses which are characteristic of three dimensional features;

processing the three dimensional image only at those addresses which correspond to two dimensional addresses characteristic of three dimensional features, to determine the altitude of those three dimensional features, and;

rejecting the [quality] IC package if the altitude of the three dimensional features fall outside predetermined boundaries.

36. (Amended) A method for evaluating the quality of an IC package where the IC package includes a plurality of three dimensional features, the method comprising:

acquiring a two dimensional image characteristic of a portion of the IC package, the two dimensional image defined by a plurality of pixels having at least an address and a pixel intensity;

acquiring a three dimensional image characteristic of the portion of the IC package, the three dimensional image defined by a plurality of pixels having at least an address and an altitude;

processing the two dimensional image to identify a plurality of addresses which are characteristic three dimensional features;

determining a correspondence between the addresses in the two dimensional image and the addresses in the three dimensional image by calibrating to a machined fixture.

processing the three dimensional image only at those addresses which correspond to two dimensional addresses characteristic of three dimensional features, to determine the altitude of those three dimensional features, and;

rejecting the [quality] IC package if the altitude of the three dimensional features fall outside predetermined boundaries.